DOCUMENT RESUME

ED 211 982 CS 206 701

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TITLE Designing and Sequencing Prewriting Activities.
INSTITUTION ERIC Clearinghouse on Reading and Communication Skills, Urbana, Ill.; National Council of Teachers of English, Urbana, Ill.
SPONS AGENCY National Inst. of Education (ED), Washington, D.C.
PUB DATE 82
CONTRACT 400-78-0026
NOTE 51p.; TRIP: Theory & Research into Practice.
AVAILABLE FROM National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801 (Stock No. 10843, $3.50 member, $4.00 non-member).

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Class Activities; *Cognitive Processes; *Prewriting; Secondary Education; *Sequential Approach; *Writing Instruction; Writing Processes; *Writing Research

ABSTRACT

Intended for junior high and high school writing instructors, this booklet provides prewriting activities designed to help students master the thinking strategies essential to effective written communication. The first portion of the booklet discusses theory and research on the role of thinking strategies in writing and gives an overview of the strategies implicit in the activities of the next section. The second part of the booklet provides a sequence of 17 activities, each with purpose and procedures outlined, designed to develop a particular thinking skill. Skills include classifying, differentiating, observing details, and peer evaluation. (HTH)

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THEORY & RESEARCH INTO PRACTICE

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Designing and Sequencing Prewriting Activities

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NCTE Stock Number 10843

Published 1982 by the ERIC Clearinghouse on Reading and Communication Skills and the National Council of Teachers of English, 1111 Kenyon Road, Urbana, Illinois 61801

This publication was prepared with funding from the National Institute of Education, U.S. Department of Education, under contract no. 400-78-0026. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Prior to publication, the manuscript was submitted to the National Council of Teachers of English for critical review and determination of professional competence. This publication has met such standards. Points of views or opinions, however, do not necessarily represent the official view or opinions of either the National Council of Teachers of English or the National Institute of Education.

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Foreword

The Educational Resources Information Center (ERIC) is a national information system developed by the U.S. Office of Education and now sponsored by the National Institute of Education (NIE). It provides ready access to descriptions of exemplary programs, to reports on research and development efforts, and to related information useful in developing effective educational programs.

Through its network of specialized centers or clearinghouses, each of which is responsible for a particular educational area, ERIC acquires, evaluates, abstracts, and indexes current information and lists that information in its reference publications.

The ERIC system has already made available—through the ERIC Document Reproduction Service—a considerable body of data, including all federally funded research reports since 1956. However, if the findings of educational research are to be used by teachers, much of the data must be translated into an essentially different context. Rather than resting at the point of making research reports easily accessible, NIE has directed the separate ERIC clearinghouses to commission information analysis papers in specific areas from recognized authorities in those fields.

As with all federal educational information efforts, ERIC has as a primary goal bridging the gap between educational theory and classroom practice. One method of achieving that goal is the development by the ERIC Clearinghouse on Reading and Communication Skills (ERIC/RCS) of a series of booklets designed to meet concrete educational needs. Each booklet provides teachers with a review of the best educational theory and research on a limited topic followed by descriptions of classroom activities that will assist teachers in putting that theory into practice.

The idea is not unique. Several educational journals and many commercial textbooks offer similar aids. The ERIC/RCS booklets are, however, noteworthy in their sharp focus on educational needs and their pairing of sound academic theory with tested classroom practice. And they have been developed in response to the increasing number of requests from teachers to provide this kind of service.

Topics for these booklets are recommended by the ERIC/RCS National Advisory Board. Suggestions for topics are welcomed by the Board and should be directed to the Clearinghouse.

Bernard O'Donnell
Director, ERIC/RCS

1 Theory and Research

In recent years the prewriting stage of the composing process has begun to receive attention in textbooks and publications for teachers. But current theory and practical applications of prewriting instruction generally neglect a crucial aspect of preparing students to write—teaching students the thinking strategies essential to different types of written communication. If writing were simply a matter of correct usage and mechanics, our jobs might be easier—but much less interesting. Implicit in the process of writing to communicate ideas to an audience is the process of thinking. Therefore, for prewriting instruction to be complete it must teach thinking strategies essential to effective written communication. The theory and activities presented in this booklet illustrate how the middle school, junior high, and senior high teacher can design prewriting activities in which students practice and master thinking processes needed for writing.

Prewriting instruction in current textbooks and publications for teachers usually takes one of two approaches or a combination of the two. One is the models approach, in which students primarily analyze models of writing by professionals or other students to identify the characteristics and form of a particular mode, the ways writers appeal to their audience, and other elements of effective communication. This approach assumes that by analyzing strong and sometimes weak compositions students will understand what makes good writing and will be able to reproduce this process themselves and write more effectively. However, the problem is that although students may be able to recognize why a composition is effective or ineffective, this insight does not mean they will be able to perform the thinking processes necessary for generating an effective composition themselves. We are not suggesting that models are useless but rather that models alone do not necessarily teach the process of thinking through a particular writing problem; they merely illustrate the product of that process.

The other approach to prewriting is through so-called warm-up activities: a composition assignment is preceded by usually one or two activities that focus on motivating the student and generating ideas for writing. The assumption underlying this approach is that one of the biggest problems for writers is getting started. Therefore, activities

include different techniques to generate material for writing a particular assignment. To serve as a prelude to a writing assignment, activities usually involve one or two of the following: brainstorming in small groups, role playing to develop a point of view, observing an object or a place, freewriting, or reverie about a past experience. As individual activities they have some value because they help students generate ideas, gain interest, and do a little planning before they write a draft.

But there are additional crucial needs that these activities neglect. For example, in one such approach to prewriting, an activity is included to help students discover an issue they feel strongly about and to interest them in arguing their viewpoint on it.[1] Yet, the suggested instruction does not include activities to teach students how to argue a viewpoint effectively. Motivation to write is important, but argumentation involves some complex strategies that students need to learn to perform, such as anticipating the arguments of the opposition and developing counterarguments to refute their reasoning. These skills seem to be at the heart of effective argumentation, but they are never directly addressed in the activities. The instruction does include activities for writing for different audiences; however, this writing does not involve argumentation but rather a different type of writing. Argumentation requires a specific kind of audience analysis, anticipating the attitudes and arguments of the opposing side of an issue. Just because students practice writing a fictional story for several different audiences, as the instruction suggests, does not mean they have developed the skill of anticipating the opposition.

Too much is left to chance. These kinds of warm-up activities may help students generate ideas and a viewpoint for one given topic or assignment, but they are not designed to prepare the students to write better any time they confront that particular type of composition. The warm-up approach addresses only one or two of the skills that are required for a given type of writing and does not focus on the crucial skills.

We are proposing a different approach to prewriting based on an assessment of the thinking strategies essential to good writing. In addition, our aim is to develop prewriting instruction that will teach students these thinking processes. If the instruction is to teach argumentation, for example, the question becomes how can activities be designed to teach students thinking processes that will help them write more effectively *whenever* they are given an assignment involving argumentation. By focusing activities to teach thinking processes, we do not want to preclude direct provision for helping students to

generate ideas or plan effectively; but in addition to this help, we want to teach students strategies with which they can analyze ideas in ways they could not before. A pilot study suggests that the activities to teach thinking strategies presented in this booklet result in far greater gains in writing than a combination of models and warm-up activities.[2]

Task Analysis: Focusing on Thinking Strategies

In planning instruction as we are suggesting, one of the first steps for the teacher is to discover what thinking strategies students need in order to write well. Making this discovery requires an analysis of the characteristics of good writing and the thinking strategies that produce good written communication.[3] For instance, one characteristic essential to much school-related writing at the secondary and college level is support of a generalization (or thesis) with specific examples. The writer must go through the following cognitive processes: generate a thesis, select appropriate examples, and explain how the examples support the thesis. Different types of writing assignments require the writer to perform many complex thinking processes in composing—such as persuading, comparing and contrasting, defining abstract ideas, or using dialogue to reveal character. Because successful writing depends on many different and complex strategies and because the complexity is likely to overwhelm students, it makes sense for the composition teacher to focus on one specific composing task or skill at a time. As Hirsch argues, if the demands of the writing task are too complex, then performance degenerates as "cognitive overload" occurs because a writer's ability to process information is limited when performing a complex cognitive task.[4] If the teacher tries to teach writing in general—that is, strategies for use with any kind of writing—the instruction will be so diffuse that it will be vague and superficial.

A form of the warm-up approach that many textbooks are using is to begin with a chapter on prewriting that attempts to teach students prewriting skills they can use for *any* type of writing. Included are a few activities for data gathering, audience analysis, listing, and outlining. The skills are important, but they are presented in too general a manner. They ignore the fact that different types of writing require very different kinds of audience analysis or data gathering. For example, data gathering for descriptive writing involves close observation of objects, people, and sounds;[5] whereas data gathering for argumentation involves generating examples and finding factual information. It seems superficial and perhaps counterproductive to attempt to teach in seven to ten pages all the different data gathering and audience analysis

skills that students will need for any type of writing. Instead of trying to cover prewriting once in a general and simplistic way at the beginning of a course or unit, instruction can be designed so that the teacher deals with one type of writing at a time and designs activities to focus specifically on those thinking processes essential for that particular type.

To focus instruction on "the paragraph" or "the essay" presents some problems because writing different kinds of paragraphs or essays involves very diverse thinking processes. For example, a good paragraph describing a person or place has characteristics that are distinctly different from those of a good paragraph supporting a generalization about a literary work. A paragraph describing a person or place does not necessarily have to contain any directly stated generalization or thesis; yet the development of an explicit generalization or thesis is essential to the second kind of paragraph. Teaching each of these kinds requires a different focus of instruction because of the different thinking processes required to write each. A descriptive paragraph or an argumentative essay is a good focus of instruction since each has clearly identifiable characteristics.

Once a specific type of composition or composing skill has been chosen for instruction, the teacher can identify and clarify the thinking strategies required for that particular type of writing. To demonstrate specifically how to carry out this procedure for designing prewriting instruction, we have chosen to focus on one type of composition important for secondary students—extended definition—with the aim of providing a model that can be used for other types of writing as well.

Extended Definition: Essential Thinking Strategies

We decided to focus on extended definition because the processes involved in composing extended definition are central not only to English but to all other academic disciplines and technical trades as well. In virtually all English courses, students have writing assignments that require them to use defining skills. Students might be asked to define a complex term such as *courage* or *freedom*, or a concept such as alienation or tragedy. In either instance, students might be asked to define in much more complex ways than the definitions offered by a dictionary.

A dictionary definition of *courage* that says it is "the quality of being fearless or brave" only defines the word in a very general way; it dos not help in classifying actions such as Richard Nixon's attempts

to cover up the Watergate burglary when such attempts could be very dangerous politically. This example may seem to fit the definition; yet because Nixon acted with a selfish motive, to protect himself and his position, most would argue he was not courageous at all. This dictionary definition also leaves unanswered other questions: Can a person be courageous, yet fear nothing? Is a rash action courageous? To deal with these questions, Aristotle found it necessary to provide elaborate criteria to clarify borderline cases and so-called gray areas. Two of these criteria apply here: For an action to be courageous a person must, first, understand the danger involved and, second, make a conscious choice to act.[6] These examples reveal that defining is a complex, sophisticated process.

Complex defining skills are important in other disciplines too; they are basic to the Linnaean classification system, interpretation of the language of the law, determination and diagnosis in medical practice, and instruction in manuals of technical industry, to name only a few. A recent national issue that shows the importance of these skills and the complexity in formulating a clear definition involves the question of determining when a person is legally dead. The issue, which crosses medical, moral, ethical, and legal boundaries and was brought on in part by advances in modern technology, forced Congress to establish a presidential commission to consider and formulate a national, uniform definition of death. The commission of experts from various fields—such as education, medicine, law, and politics—settled on a definition that contains elaborate criteria and tests and which attempts to distinguish between death and cases involving termination of life-sustaining treatment and organ donors.[7] This issue and others like it point out how pervasive the need to have extended definition skills has become. To prepare students adequately for extended definition tasks that they will have in English, in other disciplines, and in the world outside the school, there is a need to provide adequate instruction in how to define.

After choosing a specific composing task for instruction, the teacher may continue the task analysis by identifying the thinking strategies crucial to the successful writing of that particular type of composition. In analyzing the composing task, the teacher must reflect on the kinds of thinking, the analytical skills, and the organization involved in that type of writing. An examination of compositions by professional writers of a type similar to what the student will be expected to produce helps generate and clarify characteristics. A task analysis of extended definition suggests five thinking processes essential for the writer: classifying an item, term, or concept; identifying details that differ-

entiate it from others in the same class; generating specific defining criteria; distinguishing closely related phenomena; and recognizing and clarifying borderline cases or gray areas.

As this task analysis suggests, the characteristics identified cannot be just introduction, thesis, body, and conclusion. The analysis must be more specific indicating the characteristics of the content, the traits that are crucial to successful writing of the given task. The task analysis can be conducted in the same manner with other types of composition. For example, a task analysis of argumentation reveals that one essential thinking process is developing arguments by using facts or examples as support. The task analysis helps identify the thinking processes that should become the focus of prewriting instruction.

Criteria-based Scales: Applications for Prewriting Activities

To plan instruction, the teacher must determine the extent to which students can perform the processes essential to a given composition task. Pretesting by, for example, using a criteria-based scale similar to scales used by the National Assessment of Educational Progress and other composition researchers may reveal which skills or processes students can and cannot perform and may also suggest a hierarchy for sequencing instruction.[8] Instruction may then be tailored to omit the processes that students can already perform and to cover those which they cannot perform.

A criteria-based scale is developed by analyzing results of a pretest in which students write a given type of composition. It describes the characteristics of composition at four or five distinct levels of performance, from weakest to strongest. From the task analysis the teacher derives the characteristics of compositions at the highest level of performance. Analyzing the pretests to determine the degrees to which student compositions contain these characteristics help generate the descriptions of the other levels.

Constructing a scale involves several procedures. Before any instruction, the teacher gives students a pretest writing assignment involving the type of composition to be taught. The teacher first reads all the papers to get an idea of the range. The papers are divided into four or five quality groups according to the extent to which they contain the characteristics specified in the task analysis. Each group is then quickly checked to be sure all compositions represent about the same level of performance. After all papers have been grouped, the next step is to write a brief description of the characteristics of each group of compositions. The result is a scale, stating the characteristics of four

or five levels of performance for the composition task. The wider the age and ability range of the students taking the pretest, the more comprehensive the scale will be.

To produce useful results, pretest assignments must be carefully worded. Avoiding the ambiguous, confusing, or trick question, the pretest assignments should be straightforward and state exactly what is expected in the writing. The pretest writing assignments below contain choices for extended definition.

Pretest Writing Topics

Choose *one* of the following terms and write a composition in which you give a complete definition of the term you have chosen to write about.

The Western Hero: Many Westerns, whether television programs, movies, or popular books, present a similar kind of hero. What is the Western hero? What characteristics do they have? Use examples to help the reader understand your definition.

Crime: What is crime? Define crime and explain what guidelines you would use to determine whether or not an action is a crime. Give examples that show these guidelines.

Child Abuse: What is child abuse? In your definition, include the rules or guidelines you would use to determine whether a person has committed child abuse. Use examples to help the reader understand your definition.

One can group the papers from these extended definition pretests into five levels. The lowest papers are those that do not define at all. In the next groups, the compositions define by imitating a dictionary definition or by giving a few characteristics but do not give a very complete definition. More sophisticated compositions have elaborate characteristics or criteria to define the term and cite specific examples. In the highest group, papers clarify borderline cases and the gray areas of the term defined. The scale below shows the characteristics of each group of pretest compositions:

Scale for Extended Definition

Level 1: These compositions only mention the term or vaguely discuss the concept without even minimally defining.

Level 2: Compositions in this group state the term to be defined, identify a class to which it belongs, and give some differentiating details. These details are generally unelaborated examples, synonyms, or description.

Level 3: These compositions put the term in a class and provide differentiae. They also give some criteria to define the term and contain a few examples. The criteria are gen-

eral, superficial, or unclearly stated, and the examples often are not clearly related to the criteria.

Level 4: Besides classifying and differentiating, compositions in this group contain several specific criteria that identify the term and examples that explain and elaborate these criteria. The term is often analyzed through its different parts or forms (that is, dividing child abuse into physical and mental abuse) and provide criteria and examples for each.

Level 5: These compositions contain the characteristics of level 4, but they are more sophisticated because they also contain elaborate criteria and examples that focus on distinguishing the term from other closely related terms or concepts. Criteria and examples deal with the gray areas and borderline cases in order to clarify the limits of the definition. Criteria are often clarified through an example followed by a contrastive example.

Three student compositions illustrating several of the levels on this scale will help clarify the descriptions of the levels and the meanings of the terms used. The compositions have been corrected for mechanics and the second and third have been edited to conserve space.

The first paper, "Crime," is level 1 because it mentions crime but offers no substantial definition.

Crime

> There is really no way to give the perfect definition of crime. I think that everybody has his own separate definition. What some people may consider a crime other people may not. You usually know when you're committing a crime.

In an attempt to be "right," the student is all-inclusive rather than discriminating in trying to define crime. Many students write papers that are lengthier and stylistically more complex than this example but they are level 1 papers because they do not define.

The next example illustrates level 3.

Western Hero

> . . . A Western always had entertainment for everyone, suspense, action, and romance. And in every Western, there was always a hero, someone whom everyone liked and could only dream of being. Western heroes are rather unique compared to every other hero, yet they all seem to have similar characteristics that captivate the audiences. The most important aspect of a Western hero would have to be mystery, whether the mystery evolved from his name, past, or motives. He would be in the center stage, yet he still would not reveal his true self to anyone.

> The other aspect that was needed was courage. Whether it was courage to fight outlaws, Indians, or even stand up for his rights, courage was essential.
>
> All in all, the Western hero was a very interesting character.

The first two paragraphs, which have been omitted, describe the changes in entertainment as a result of the invention of television but do not mention the Western hero. They contain unsupported generalizations and extraneous information. This composition is level 3 because it classifies the Western hero as a person in a Western story and differentiates him because he was a person "everyone liked and could only dream of being." The writer also gives two criteria for the Western hero—mystery and courage—but both are general and not clearly explained or adequately developed with specific examples.

The third student composition, "Force beyond the Line of Duty," was written after instruction and shows level 5 because it attempts to clarify the gray areas in defining police brutality. Written by the same student who wrote the level 3 paper, this paper shows the improvement after the student, through prewriting activities, practiced the thinking processes of level 4 and 5 of extended definition. Although the paper is by no means perfect, the gain of two levels is substantial for about a week of instruction.

Force beyond the Line of Duty

> Police brutality is an act which is vague in its meaning. The generally accepted definition is the use of unneeded force by police in the line of duty. However, there are always times which make it necessary for a more precise definition. A more workable definition which could be used by a judge in deciding a brutality case would be an intentional, unprovoked act of force by an officer in which his life or any innocent bystander's life is not put in danger by the victim of his unneeded assaults.
>
> In order to clarify this definition, one must look at it in sections. The first word which is key in understanding the definition is *intentional.* This means that the officer is using force with a clear understanding of what he is doing and that his actions are done on purpose. For example, if a police officer's gun accidentally misfires and injures a person, this act would not be considered police brutality since the officer was not intentionally using force.
>
> Another key word in the definition is *unprovoked.* The act must be unprovoked which simply means that the person the officer is using force upon has not resisted attempts by him to carry out his correct job as an officer. For instance, if an officer is summoned to arrest a shoplifter, and the person complies with the officer, the policeman may not use force upon the shoplifter since no force is needed to carry out his job. However, if the shoplifter resists arrest and begins to make vocal attacks and strikes out at the officer, he is allowed to use force that is needed to carry out his job and he cannot be brought up on charges of brutality since the action was provoked. . . .

This third paper classifies police brutality as an act of force and differentiates it from acceptable police conduct because it is "intentional," "unprovoked," and "unneeded." The first criterion the student uses to distinguish police brutality is that the "officer is using force with a clear understanding of what he is doing and that his actions are done on purpose." The writer then gives an example of the accidental misfiring of an officer's gun and explains that this action does not fit the criterion because the officer is not intentionally using force. The second criterion states that "the act must be unprovoked which means that the person the officer is using force upon has not resisted attempts by him to carry out his correct job." The example—a shoplifter is caught and complies without resistance with the demands of the officer—illustrates a situation in which an officer is unprovoked and would be guilty of police brutality if he used force. The writer then includes an example to clarify this gray area, concerning exactly what constitutes provoking an officer; it explains when an officer can use force but not be guilty of brutality. The writer builds on the same example but changes one factor: The shoplifter now resists arrest and begins to make vocal attacks and strikes out at the officer. The writer concludes that this case is not police brutality if the officer physically restrains or hits the shoplifter because the officer was provoked. The process used by the writer involves stating an elaborate criterion, clarifying the criterion by explaining an example that illustrates it, and then contrasting that example with one that is similar but, because one key factor is altered, does not fulfill the established criterion. This process of explaining a contrastive example is one of the most complex of the defining thinking processes. It involves sophisticated logic: formulating criteria, generating examples that illustrate the criteria, inventing contrasting examples, and relating all of the points through clear reasoning. The third paper continues in the same manner by next elaborating the criteria for unnecessary force.

Activities to Teach Thinking Processes

The writing samples and scale indicate that the following thinking strategies or processes are essential in teaching definition.

Identifying a defining problem
Gathering data related to the defining problem
Classifying
Differentiating
Relating examples to given criteria

Formulating clear criteria

Generating examples from experience or inventing hypothetical cases as examples

Analyzing borderline cases

Clarifying the limits of a term through contrastive examples

By identifying these processes the teacher can focus prewriting instruction in extended definition, for which the scale even suggests a hierarchy for sequencing instruction. The fact that classifying and differentiating appear early in the levels of the scale implies that these are easier processes for students, and activities should begin with these strategies. For this reason, the first few activities in the Practice section of this booklet focus on teaching classifying and differentiating. A more difficult task is the formulation of criteria. Accordingly, the next Practice activities involve students in relating examples to given criteria. Once students are able to relate examples to criteria they are ready for the next steps in the sequence, which are entitled "Terrorism," "Courageous Action," and "Freedom of Speech." These activities are intended to help students formulate their own criteria. In the two activities that follow, students work on the most difficult processes, inventing not only their own criteria but also their own borderline and contrastive examples. In this way the scale determines the order in which the various processes are taught.

A careful look at textbooks with exercises explicitly intended to teach extended definition reveals that most fail to deal with many of these thinking strategies. In teaching definition, textbooks generally use a models approach and start with a formula for formal definitions. They include exercises in which students are given terms for which they must practice writing formal definitions that classify and differentiate, and they sometimes include work with etymologies. A few textbooks have an activity that lists four or five words for similar objects or ideas, and students must define each word so that it may be distinguished from each of the others. These activities and others like them address the processes of classifying and differentiating in writing short definitions, but activities are not provided for practicing any of the other essential and more complex processes. When it comes to dealing with these processes, the students are simply told what they should do and provided with models for analysis. These presentations seldom suggest that the students practice these processes before attempting to write.

An explanation of some of the ways we went about inventing activities for teaching the definition thinking strategies may be helpful as an example of what the teacher will have to do to plan activities for other types of writing. We perceived a problem with the traditional

models approach to teaching classifying and differentiating in which students are given words and asked to write formal definitions. When students are simply given a list of words to define, there is nothing in the exercise to ensure that they go beyond a superficial definition. In writing the formal definition they usually simply look up the word in the dictionary. The exercises often encourage superficial responses by asking the student to define a complex term such as *communism*, of which the student probably has only a general understanding. Either the teacher must accept a vague definition or resort to explaining a better definition to the students. In this latter case the teacher is practicing the thinking processes of definition, but the student is not. Giving students a definition problem that can be solved by copying from a dictionary does not promote the kinds of thinking that we want, because that procedure elicits no real thinking on the part of the student.

We found that a sure way to keep activities from being superficial or rote and to promote real thinking is to bring into class actual objects that students can observe directly, generating detail and challenging each other's observations. This procedure ensures active, lively participation and practice of essential thinking strategies. In addition, the process of interaction allows students to challenge each other and refine their reasoning; that is, to receive immediate verbal response from an audience and to practice elaborating their ideas and defending their analyses. As they disagree with one another, they find a real audience and purpose for strengthening their reasoning.

The following example contrasts two methods of teaching classifying and differentiating to show how the use of objects or pictures generates student interaction and results in defining on a sophisticated level. In the first situation, students are given only the word *cobra* and asked to define it. Their definitions are for the most part general and vague. They usually say something like "A cobra is a snake that is poisonous." Little argument about this definition ensues because students may not know very much about the characteristics of a cobra. Then perhaps one student or the teacher ends up explaining to the class the distinguishing features of the cobra; thus the rest of the students are not actively involved in the defining process. On the other hand, if the procedure is altered so that students examine pictures of cobras and other poisonous snakes, as the activity presented in this booklet suggests, their definitions are much more specific and accurate. Disagreement is generated. When students discuss with each other the similarities and differences between the cobra and the other snakes they challenge each other's observations and refine their definitions. One

student says the cobra differs from the other snakes because it has a large neck. Another student responds that the cobra does not have a large neck, but a hood that flattens and expands when it senses danger. In this kind of activity, students really struggle to define precisely and discover for themselves that in the process of defining they cannot operate from vague general notions but must search for and focus on details.

In addition, we wanted to invent activities that would involve students in all the other thinking strategies. The activities beginning with "UFO: Close Encounters of Which Kind?" are designed so that students experience firsthand the thinking processes that textbooks seem only to tell the students about or illustrate through models. Our problem was to get students to define in a sophisticated manner, with elaborate criteria, without doing it for them. We realized that if we gave students a complex term such as *courage*, put them in small groups, and then asked them to generate a definition and criteria, their work would most likely be superficial. They would probably define *courage* as being brave, facing danger without fear, or risking one's life, never even thinking about the gray areas that Aristotle examined. Structured in this way, the activity allows students to get away with little thinking. To avoid this problem, we decided to follow the insights gained in designing the cobra activity. We could give students actual descriptions of several diverse incidents involving possible courageous actions to examine in detail. The most important factor in this procedure turned out to be making these incidents borderline cases. Since good writers use borderline examples to clarify their definitions, it seemed to make sense to give students borderline cases and let them reason from these to a definition. The borderline cases produce some key effects. Since they can be argued different ways, controversy is guaranteed, keeping the activities from being rote or simplistic. Because of the fine distinctions involved, they also ensure that students will deal with the concept to be defined at sophisticated levels.

The following transcript of a few minutes of student response from a small group discussion during the activity "Courageous Action: What Is It?" illustrates the use of borderline cases. One incident that students are given to discuss involves Corporal Jewkes, who is lost in the woods near a village which, unknown to him, is in enemy hands. The village is heavily guarded and the surrounding area is mined. Jewkes makes his way through the mines, of which he is unaware, and into the village. Not knowing what is inside, he enters the first house he comes to. It contains a gun emplacement, but the guards are asleep. Jewkes quickly kills the guards and takes the guns. The following small-group discussion concerns whether Jewkes's action is courageous.

Bill: Sure, he's courageous. He's alone in an enemy village.

Tom: Yeah! He may capture it, too.

Wendy: But, he didn't know about the other things. The mines or guards. It's all a surprise to him.

Tom: He saw the guards, though. He realized where he was; then he shot them. That takes courage. . . . He could have run away.

Wendy: But the guards were asleep. . . . It was easy.

Bill: No! Killing the guards could wake the whole village. He's putting himself in danger.

Wendy: Doesn't say he thought of that.

Bill: What if it did . . . said he realized the whole village would be after him if he killed. . . .

Wendy: That's right. That might be courageous because he knows. You can't be courageous if you don't know what you're getting into.

The group began by saying Jewkes is courageous. As the students argued about the situation, they changed their original notion about Jewkes and discovered a criterion for courage: The person must be aware of danger. Bill even proposed a contrastive example to clarify this criterion: What if the incident stated that Jewkes realized the village would be after him if he killed the guards? In their discussion of the incidents, the students quoted above continued debating in this intense manner for thirty minutes and then still said they wanted more time.

The other borderline cases for courage, like this one, can also elicit lively controversy. As students discuss these cases in small groups they develop sophisticiated criteria. What is important is not whether students' analyses agree with those of the teacher or Aristotle but that they are actively involved in making subtle distinctions, developing criteria, and generating other borderline examples. We have included several activities that offer borderline cases (see, for instance, "UFO," "Terrorism," "Courageous Action," and "Freedom of Speech") so that students can practice these strategies in diverse situations. As the students internalize these processes they will be able to employ them on their own for any defining problem they encounter.

The activities are sequenced to gradually reduce the amount of given data and increase the amount the student must generate independently. Thus the activities lead to independence from the teacher or materials produced by the teacher. In the foregoing activities students worked from given borderline cases to generate criteria, but in the next activity in the sequence, "Cruelty to Animals," students must invent contrastive examples as well as criteria. By the end of the sequence of activities, students must perform on their own all the thinking processes of

defining. They work individually on developing their own criteria, borderline cases, and contrastive examples.

The activities in the Practice section are intended to exercise the thinking processes for defining, but a number of other considerations also entered into the design of the activities. The wide range of subject matter, format, and technique should enhance student interest and ensure that students encounter defining problems in a number of subject areas. In addition, the activities should challenge students' opinions, values, and ideas on various issues, giving them not only a fuller understanding of their own views and those of others but also valuable experience in how to communicate and interact with others. Finally, since the formats employed encourage student interaction and self-expression and ensure practice and mastery of skills, students should develop a positive attitude toward what they are doing and learning.

Research on Prewriting Approaches

The findings of a pilot study suggest that the prewriting activities presented in the Practice section, which teach thinking strategies for defining, result in much greater gains in writing skill than instruction using models and warm-up activities.[9] In this study, one class participated in a series of activities from the Practice section. Another class, the control group, made up of students of the same grade and ability level, participated in activities that involved reading a textbook explanation of the qualities of good extended definition, analyzing models, doing textbook exercises for definition, brainstorming for examples and criteria, and doing other warm-up activities in small groups. Both classes had six days of instruction, approximately the same amount of time in small-group work, and the same pretest and posttest choices. The control group read the same model compositions as the experimental group and also analyzed three additional models. The pretests and posttests for all groups were coded (so that they contained no identifying information), mixed randomly, and scored by independent raters with reliability of .85, .88, and .88. Scores ranged from 1 to 24 points. Statistical analysis of the gains in scores from the pretest to the posttest revealed that both groups made significant gains, but the gains of the group that had participated in thinking process activities were significantly higher than the gains of the control class. The control group had a mean pretest score of 7.8 and a mean posttest score of 10.5 with $p < .05$. However, the group involved with thinking process activities had a mean pretest score of 4.2 and a mean posttest score of 14.5 with $p < .0005$. When the thinking process activities were

conducted at a second school in one class, the writing skill of these students also showed highly significant gains (from a mean pretest score of 6.7 to a mean posttest score of 14.8 with $p < .0005$). This pilot study suggests that the activities we designed to teach thinking strategies result in much greater gains in writing skill than instruction involving warm-up activities, textbook exercises, and analysis of models.

In addition, two studies involving another type of writing—description—suggest similar findings. Hillocks found that students participating in a series of activities focused to teach the processes of observing and using detail to create impact achieved far more highly significant gains from pretests to posttests than students who examined models and studied kinds of paragraph development[10] or students who examined models and performed warm-up activities such as those described earlier.[11]

These dramatic gains in only a short period of time may be the result of focusing prewriting instruction on what is essential to a given type of writing, designing activities that ensure firsthand experience in the essential thinking strategies, giving students intensive practice with these strategies, and sequencing activities so that students gradually gain independence from the teacher. Giving students extensive practice does not mean devoting exorbitant amounts of time to writing instruction since the gains in the definition study were achieved in only six days. The difference in gains may be because activities are highly focused and emphasize the essential thinking processes. To work only on classifying and differentiating neglects most of the essential thinking processes of complex defining problems. Just telling students what to do or showing models is not enough to achieve highly significant improvement. Prewriting activities that ensure firsthand practice of essential thinking strategies may enable students to make these strategies part of their repertoire and use them whenever they encounter a new problem.

Applications for Other Types of Writing

The prewriting activities presented in the Practice section provide high-interest, sequenced instruction that inductively teaches secondary students of various abilities the thinking strategies that enable them to write sophisticated extended definition compositions. The same planning procedures can be used to develop effective prewriting instruction for other types of writing. For example, analyzing argumentation, a composing task central to much school-related and "real-world" writing, reveals some essential thinking processes: The writer

must identify and take a position, generate reasons for this position, support this viewpoint with specific facts and examples, and anticipate the arguments of the opposition and refute them. After a task analysis, the teacher can pretest students and develop a scale.[12] A scale suggests the essential thinking processes that should be the focus of prewriting instruction and a sequence for dealing with these processes.

Activities such as the following might be developed: Students in small teams take a position on a given issue and generate arguments for their side. They then find supporting facts and examples, evaluating their appropriateness. For practice in anticipating the opposition, teams of students might try to guess each of the points or arguments that teams on the opposing side of an issue will present. Students might then practice attacking the reasoning of the opposition.

Composition instruction designed to use these procedures helps students learn the thinking strategies essential to a specific composition task before they begin to write. Through inductive activities students not only learn complex thinking processes but also gain enthusiasm for communicating their ideas and interest in the writing of others. Since students are learning not just how to write but also how to think, they will be able to use these strategies in a variety of subject areas, in work situations, and in daily life.

Notes

1. Carl Koch and James M. Brazil, *Strategies for Teaching the Compositing Process* (Urbana, Ill.: National Council of Teachers of English, 1978) pp. 31-34. For another example of the warm-up approach to prewriting see also Littleton Long, *Writing Exercises from Exercise Exchange* (Urbana, Ill.: National Council of Teachers of English, 1976), pp. 1-15.

2. George Hillocks, Jr., Elizabeth Kahn, and Larry Johannessen, "The Effects on Student Writing of Teaching Defining Strategies as a Mode of Inquiry," (unpublished manuscript).

3. Robert M. Gagné, *The Condition of Learning* (New York: Holt, Rinehart and Winston, 1970), pp. 242-243, presents a discussion of task analysis but does not explore its implications for composition instruction.

4. E. D. Hirsch, Jr., "Some Principles of Composition from Grade School to Grad School." Paper delivered at The English Curriculum Under Fire Conference at The University of Chicago, June 26-28, 1978, pp. 10-20. Hirsch's paper will appear in the forthcoming (1982) NCTE publication, *The English Curriculum under Fire*, edited by George Hillocks, Jr. See also M. Shaughnessey, *Errors and Expectations* (New York: Oxford University Press, 1977), pp. 6-10, 220-225, for another discussion of what happens to writers when they are overwhelmed by complexity, and why we need to focus instruction on a single task or skill.

5. For an instructional sequence designed to teach specificity in descriptive writing see George Hillocks, Jr., *Observing and Writing* (Urbana, Ill.: National Council of Teachers of English, 1974).

6. Aristotle, *Nicomachean Ethics*, trans. Martin Ostwald (New York: Bobbs-Merrill, 1962), pp. 52–81.

7. For this definition of death see "U.S. Panel OKs Death Definition," *Chicago Tribune*, 10 July 1981, sec. 1, p. 10, col. 1.

8. For research involving a criteria-based scale for specificity in descriptive writing see George Hillocks, Jr., "The Effects of Observational Activities on Student Writing," *Research in the Teaching of English* (May 1979), 23–25. For other examples of criteria-based scales see Richard Lloyd-Jones, "Primary Trait Scoring," in *Evaluating Writing*, ed. Charles R. Cooper and Lee Odell (Urbana, Ill.: National Council of Teachers of English, 1977), pp. 33–66.

9. Hillocks, Kahn, and Johannessen.

10. Hillocks, "The Effects of Observational Activities on Student Writing."

11. Hillocks, "The Interaction of Instruction, Teacher Comment, and Revision in Teaching the Composing Process," *Research in the Teaching of English* (in press).

12. A scale for argumentation is included in Lloyd-Jones, pp. 60–64.

2 Practice

Each activity in this section helps students practice specific skills indicated on the "Scale for Extended Definition." The "Pyramid Game," "Name That Group," and "Observing Details" are designed to teach the least difficult processes on the scale, helping students to write definitions by classifying and identifying differentiating details. The more difficult UFO activities, as well as "Terrorism," "Courageous Action," and "Freedom of Speech," focus on developing the more complex thinking strategies at level 5 of generating elaborate defining criteria, making distinctions among closely related phenomena, and recognizing and clarifying gray areas.

The teacher does not have to use all of the activities but should not disrupt the sequence. Many of the activities by themselves are an interesting change of pace in the classroom; but unless four or five activities in sequence are used, students probably will not develop the complex defining skills that are the purpose of instruction. For instance, the average seventh and eighth graders who have had no previous experience with defining skills, a possible sequence would begin with "Student Survey," followed by practice in the thinking processes of classifying and differentiating with the "Pyramid Game," "Name That Group," "Making the Difference Clear," "Observing Details," and "Fictionary," and ending with the two UFO activities. In ending with "UFO: Close Encounter of Which Kind?" students practice relating examples to criteria and analyzing borderline cases, but they do this in a very structured way. "Reporting to The Center for UFO Studies" provides a good culminating writing assignment for this instructional sequence. Teachers who work with high school remedial students with seventh or eighth grade reading levels might consider this same sequence for their students.

A sequence for ninth or tenth grade students would also begin with "Student Survey." After this introductory activity, students would sharpen or review differentiating skills with "Observing Details" and "Fictionary." Next, students would work with the UFO activities, "Terrorism," and "Courageous Action," which deal with relating examples to criteria and formulating clear criteria or analyzing border-

line cases. As a final assignment to check students' ability to apply their skills independently to a new defining task, the teacher might give students the worksheet from the "Freedom of Speech" activity and ask them to write a paper that defines freedom of speech and uses the examples on the sheet or others like them to illustrate their criteria.

After identifying definition problems through the "Student Survey," advanced composition students in the eleventh or twelfth grade, who have many of the preliminary defining skills, would begin with "Terrorism" and continue through the sequence until the final activity, "Peer Evaluation." Working with the last seven activities of the entire sequence gives students practice in relating examples to criteria, formulating clear criteria, generating cases to be used as examples, analyzing borderline cases, and clarifying the limits of the term before they independently attempt to write their own extended definition papers.

These suggested sequences are meant to be helpful but not definitive. Certainly, other instructional sequences may suggest themselves to the individual teacher after assessment of the strengths and weaknesses of the students.

Student Survey

Purpose: This introductory activity is designed to interest students and help them discover for themselves the problems involved in definition. Because the survey asks for students' opinions about various subjects, it appeals to all age and ability levels. No matter where the teacher wishes to begin in the instructional sequence, starting with this activity will directly involve students in this and subsequent defining activities. The problems of defining readily surface when results of the survey reveal that different students believe from ten to twenty-two people in the classroom have brown hair! Discussing their different perceptions helps students inductively realize that terms need to be clarified and explained. The survey's questions also suggest some of the problems of definition in the world beyond the classroom: What are the criteria for closing school in severe weather? What defines a "good worker" for a supervisor when writing a letter of recommendation?

Procedures: Pass out the following survey form and have students fill it out on their own. To enhance the effectiveness of the survey, simply substitute the names of six or eight nearby or well-known communities in question 2.

Survey

Please answer each question with the best answer possible. Do not look at anyone else's answers!

1. About how many inches of snow would have to fall before you could consider the storm to be a blizzard?
2. Label each of the following as city, town, or suburb.
   a. San Diego, Calif. _____ d. Burbank, Calif. _____
   b. Beverly Hills, Calif. _____ e. Green Bay, Wis. _____
   c. Aspen, Colo. _____ f. Ft. Lauderdale, Fla. _____
3. You are rating the following students for National Honor Society on the basis of *leadership*. Put a check by each of the following activities you consider a position of leadership.
   a. Secretary of senior class _____
   b. First string basketball player _____
   c. Reporter for newspaper _____
   d. Part in play _____
   e. First in class (G.P.A.) _____
   f. Member of ski club _____
4. If a male were described as average in height and weight, what would be his height and weight? _____ feet _____ inches _____ pounds.
5. At what age does middle age start? _____
6. How many people in this room have brown hair? _____
7. An island is described as having a tropical climate. What would the temperature be on an average summer day? _____

Once students have answered the questions, compile the results of the survey on the blackboard by means of a show of hands. Permit students to argue over the differing responses but provide direction and synthesis as the need arises. Once the discussion of the questions begins to slow down or all students have had a chance to respond, ask students to draw conclusions as to why there were so many different responses and what these differences show. In this way students begin to discover and clarify some of the problems of defining.

Pyramid Game: Five Chances to Win

Purpose: Designed especially for students who write pretest compositions at levels 1 or 2, this game focuses on one basic element of definition—classifying. This activity is particularly good for junior high or basic-ability students because the format provides structure and the game aspect guarantees lively participation. In this game, students practice naming the class to which a group of things belongs; they

begin to organize their perceptions and to see that words and terms operate at different levels of abstraction.

Procedures: In preparation for this game write on overhead transparencies about ten to fifteen lists, each containing five items all belonging to one particular class. The items should be listed vertically, so that they can be uncovered one at a time, with the name of the class written at the bottom of the list. Possible lists are:

REO Speedwagon	Chevette	Holding
Styx	Champ	Clipping
Cheap Trick	Fiesta	Off sides
Queen	Encore	Pass interference
Pink Floyd	Spirit	Illegal procedure
Hard rock groups	American subcompact cars	Football penalties

To begin the game, divide the class into teams of four or five students and announce that the teams will be competing for points. Then, using an overhead projector, show the first item on one of the lists. Team One tries to guess the classification to which this item belongs. If they guess incorrectly or pass, students on any other team may raise their hands and attempt to guess. If the classification is not correctly identified, then uncover the second item and Team Two has the first chance to guess the classification. After their guess, if the correct classification has still not been identified, students on any other team may raise their hands to try. If the classification still has not been identified, the third item is uncovered and Team Three has the first chance to guess. The same procedures are followed until the classification is correctly guessed or until there are no more items to uncover. Follow the same procedures with a second list of items, except begin with Team Two when the first item is uncovered; and continue in the same manner with the other lists, giving each team a chance to be first. Points are awarded to teams in the following manner: Any team guessing correctly with only one item uncovered receives 50 points; with two items uncovered, 40; with three items uncovered, 30; with four items uncovered, 20; and with five items uncovered, 10. To discourage wild guessing, a 10-point penalty may be charged for incorrect guesses. One student may be selected to keep score on the blackboard for the class.

Once students have the idea, try a variation of this game that involves more difficult skills. Have each team write several lists that will be used in later competition. Each team should be given sets of one or two items and they must generate the remainder of the lists and the classifications to which the items belong. Once students have completed their lists, follow the same procedures described above with one

exception: the team that writes a list will not guess on that list but will receive extra points for good classification lists.

Name That Group—1

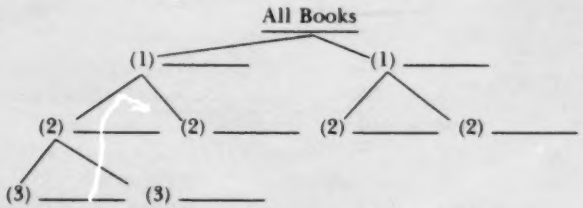
Purpose: This activity builds on the skills introduced in "Pyramid Game" to give students practice in classifying and generating differentiae for a set of concrete objects. Because it uses concrete objects, "Name That Group" is readily accessible for junior high and basic-ability students but is appropriate for any students writing at either level 1 or level 2 on the scale. The use of concrete objects allows students to examine the items carefully and enhances their ability to generate specific and sophisticated rather than superficial differentiae. The activity's open-ended structure engages students in a creative process as they begin specifically to match examples with differentiating details.

Procedures: For this activity collect several sets of similar objects such as books, magazines, record album covers, stones, or shells.

Divide the class into small groups and give each group a set of objects and a "Characteristics-Grouping Worksheet" to complete.

Characteristics-Grouping Worksheet

1. How many ways can your set of books be divided into two groups without any books being left out? List the possibilities below by naming the characteristics used to separate your two groups.
2. Pick one of your groupings from number 1 above and enter the two characteristics at level (1) on the two spaces provided in the diagram below. What further division can you make within each of these groups without leaving out any books? Indicate these groups on level (2) of the tree diagram. Finally, take just one of your four groups and divide it again. Indicate these groups on level (3) of the tree diagram.

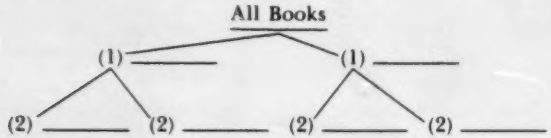


3. List all of the book titles that are in your final (level 3) groups from the diagram in number 2 above. Write down the common characteristics of each group.

Common Characteristics: ____ Common characteristics: ____

Group Members: Group Members:

4. Consider your entire set of books again. Fill in the tree diagram below and use divisions other than those used in number 2.



5. Display your four level (2) groups by listing the group members and specifying their common characteristics, as you did in number 3 above.

Using the items within the set, students may generate many different criteria. For instance, possible characteristics for a set of books might include fiction, nonfiction; paperback, hardback; single author, multiple author; single-color cover, multiple-color cover. Therefore, one possible grouping of objects might include all titles that are paperback, fiction, and by a single author.

After the worksheets have been completed, have the student groups share with the entire class some of their common characteristics and group members, to stimulate other ideas and to check accuracy.

Follow-up Writing Practice: Ask students to create groupings for all the items in a closet at home. Have them write a short piece explaining each grouping's common characteristics and listing the items that belong in it.

Name That Group—2

Purpose: This activity is a variation of "Name That Group—1" and exercises the same thinking processes of classifying and generating differentiae. Although it also uses concrete objects, this activity requires more student independence because there is no step-by-step worksheet to follow. By not simply listing a set of objects for which there is only one "right answer," the format of this activity helps students to create classifications based on multiple differentiae such as function, appearance, or origin. Creating a "new" classification which others might not see or recognize right away puts students in the role of inventor. Students writing level 2 or level 3 papers would benefit from this activity which practices directly relating concrete objects to elaborate differentiae.

Procedures: The sets of similar objects needed for this activity are the same as those suggested in "Name That Group—1."

After modeling one or two examples of what the students are to do, divide the class into small groups. Give each group a set of similar objects, telling students to generate as many groupings as they can from their set of objects. Encourage students to generate elaborate differentiae for each grouping. Objects may be members of more than one grouping, and any grouping is acceptable as long as it has two or more members. For each grouping created, have students list the characteristics of the grouping on one side of a slip of paper and the members of that grouping on the other side.

After students have generated characteristics for several groupings and recorded them on slips of paper, direct the student groups to exchange objects and characteristics slips. Using the characteristics slips, students in the second group should try to identify all the grouping's members. This will serve as a check on the first group's work.

Making the Difference Clear

Purpose: This activity stimulates the thinking process of differentiating and would therefore be useful for students writing level 2 or 3 pretest papers. Building on the idea of classification, this activity asks students to differentiate among members of the same class. By utilizing materials from other disciplines such as home economics, industrial arts, and mathematics, "Making the Difference Clear" emphasizes the use of definition across the curriculum and in the world beyond the classroom.

Procedures: Divide the class into small groups. Give each group a set of similar objects—for instance, a set of pictures of four-sided geometric shapes such as the trapezoid, rhombus, trapezium, square, and rectangle; a set of sample stitches such as the slip stitch, blanket stitch, running stitch, basting stitch, and back stitch; and a set of screws such as the Phillips Screw, butterfly screw, sheet metal screw, machine screw, and steel screw. Each group is also given 3 × 5 cards. After examining and discussing their objects, each group writes a definition for each item in the set and places it on a different 3 × 5 card. The definition must not mention the specific term or any of the others, but it must be specific enough to clearly differentiate the item being defined from the other items in the class. To check accuracy, the items and their completed definitions are given to another group, which will try to match each object with its correct definition.

Observing Details

Purpose: This activity is designed to give students practice in discrimination and would be appropriate for students writing at levels 1,

2, or 3 on the pretest. The activity makes use of pictures of animals and has students practice picking out details that differentiate one animal from the other animals in the same family (genus or species). This activity asks students to differentiate in the same manner as a biologist who makes use of the Linnaean classification system. It has wide appeal and is appropriate for all ages and ability levels of students.

Procedures: In preparation for the activity the teacher needs to put together three or four sets of fairly large pictures, each set containing animals within one family (genus or species), such as domestic cats or dogs, poisonous snakes, sharks, and so on. For instance, a set of pictures of poisonous snakes might include pictures of a cobra, water moccasin, rattlesnake, and copperhead. Each set of pictures should be pasted on posterboard or made into slides.

In the classroom, show a set of slides or focus on a set of pictures in the following manner: If the set is on poisonous snakes, show the first picture, a cobra, and ask students to identify as specifically as possible what kind of snake it is. Then, one by one, go over the other pictures; have students explain how they know each snake is not a cobra and identify as specifically as possible the family (and/or genus, and/or species) to which the group belongs, using the common rather than the scientific names. After going through a set of pictures, direct the students to list on their own paper the differences between the cobra and the other snakes, going back over the pictures if needed. Lists should include details describing the hood, size, coloration, and other distinguishing characteristics of the cobra. Discuss their observations, emphasizing the details that differentiate the cobra from other snakes. Follow the same procedures with other sets of photographs until students are able to differentiate using details.

Follow-up Writing Practice: After going through the procedures described above, show students an additional set of pictures and have them write on their own, without class discussion, a definition of the first animal. Their written definitions should focus on identifying a specific classification (family, genus, species) to which the animal belongs and using details to differentiate it from others in the same classification. Students might compare their written definitions in small groups to discover characteristics they may have missed.

Fictionary

Purpose: Using the classifying and differentiating skills emphasized in previous activities, students write fictional definitions in this classroom adaptation of a popular party game. Although students are writing

fictional definitions, this activity gives them practice imitating the form of dictionary definitions, a useful pattern to identify and follow for formulating definitions in any field.

Procedures: Choose six words from the dictionary that will be *unknown* to the students. Copy the correct definition for each word on a separate 3 × 5 card. Then copy each word down—without a definition —on a 3 × 5 card; make enough cards so that each team will receive separate cards for each of the six words. To be sure that no students know any of the definitions, read them to the class and eliminate those on the list that any student can define correctly. Examples of possible words and definitions taken from *Webster's New World Dictionary* are *evanesce*—to fade from sight, like mist or shade, or vanish; *homopterous*—belonging to a group of insects with sucking mouth parts and wings of uniform thickness; *hyoid*—designating or of a *U*-shaped bone at the base of the tongue; *slattern*—a woman who is careless or untidy in her habits or appearance; *saprophyte*—any organism that lives on decaying or organic matter, as some fungi and bacteria; *sagamore*—a chief, especially of second rank, among certain American Indian tribes.

To begin the game, divide the class into teams of two to five students. Hand out to each team the 3 × 5 cards with the six words to be defined. The teams write their own fictional definitions for each of the six words on the cards along with their team number. Since students are not expected to know the meanings of the words, they should make up a definition that sounds as believable as possible. It may be necessary at this point to remind students of the classifying and differentiating skills they have learned and to suggest that they employ these skills in writing their definitions. When each group has written out their definitions, collect the cards and separate them into stacks so that all the definitions from each team for one word are all together. Mix the cards containing the actual definitions with the matching fictional definitions. Teams are then seated together around the room in preparation for the competition.

To begin the first round announce the first word. Then read each of the definitions for that word without indicating which is the correct definition or which team wrote a definition. Each team then guesses which definition they think is the correct dictionary definition. After teams have guessed, reveal the correct answer. Any team guessing correctly receives one point for the round. In addition, any team that wrote a definition that was chosen by another team as the correct definition receives one point for each team that selected their definition. Round two and subsequent rounds continue in the same manner with the other words. After all of these words have been completed and

students clearly see the strategies involved, the teacher may give teams a second or third set of words for more rounds of competition.

UFO: Close Encounters of Which Kind?

Purpose: This activity gives students practice in relating criteria to specific examples, and it introduces students to the idea of dealing with the gray areas of definition in a structured way. The classification of the more ambiguous "encounters" depends on the students' close examination of details and their use of reasoning. For instance, in one incident the time of the sighting is reported as 7:00 p.m. In attempting to determine whether this qualifies as "daylight hours" to meet one of the criteria of a CE-1, students raise the issue and clarify it by identifying the geographic place and time of year—both factors in determining the daylight question. Although simplified, the process students go through in this activity is like that of a scientist who observes a new phenomenon and tries to place it within the framework of existing knowledge.

Procedures: To begin, hand out the "UFOs—Criteria for CE-1, 2, and 3" sheet which defines through elaborate criteria a Close Encounter of the First Kind (CE-1), a Close Encounter of the Second Kind (CE-2), and a Close Encounter of the Third Kind (CE-3). The definitions used here are based on definitions originally—and more fully—developed by Dr. J. Allen Hynek and described in *The UFO Experience: A Scientific Inquiry*[1] and other books by him on UFOs and related phenomena.[2]

UFOs—Criteria for CE-1, 2, and 3

Close Encounters of the First Kind (CE-1)

1. The object would have to be seen by many people.
2. It would have to be very close, to rule out the simple misidentification of distant objects.
3. It should appear during daylight hours so it is seen clearly.
4. It should appear strange and act in a strange manner.
5. It should be consistent with the general patterns reported for close encounters—a disc form, perhaps a dome, and a trajectory involving hovering and rapid acceleration.

Close Encounters of the Second Kind (CE-2)

1. It must interact with inanimate or animate matter.
2. The interaction would have to be seen by many people.
3. (a. or b.)
   a. The interaction would have to be with inanimate matter, as when holes or rings are made in the ground; or

b. the interaction would have to be with animate matter, as when animals or humans are affected in some way, such as burns, temporary paralysis, nausea, and so on.

4. The presence of the UFO must be at the same spot in which the physical effects are noted.
5. The physical traces must be unique, to rule out misidentification with other similar marks in the vicinity (inanimate objects) or explainable effects (animate objects).
6. The observation must also meet criteria 1 through 5 for a CE-1.

Close Encounters of the Third Kind (CE-3)

1. It must contain occupants or "UFOnauts."
2. The occupants must be observed by many people.
3. It and the occupants would have to be very close, to rule out simple misidentification of distant objects.
4. It and the occupants should appear strange and act in a strange manner.
5. It and the occupants should be consistent with the general patterns reported for close encounters (see CE-1 number 5); that is, the occupants should be creatures in their own way and on their own terms.
6. (a. or b.)
   a. It and the occupants would have to be seen during daylight hours so it and they are seen clearly; or
   b. it must meet criteria 1 through 5 for a CE-2.
7. If the occupants interact with humans, the interaction would have to be consistent with the general patterns reported for CE-3s—it would have to be largely impersonal; the occupants should be neither particularly friendly nor hostile.

When all students have a sheet, carefully go over the criteria with them. Then, read the following description of a UFO encounter and have students write down important details from the description. (While this first practice UFO incident is fictional, it is typical of hundreds of reported UFO experiences.)

On July 28, 1976, at about 5:00 p.m., a flying object was sighted by 14 witnesses in Connecticut. The witnesses—13 campers, 14 to 15 years old, and their 23-year-old counselor—were on a hike.

Suddenly, they heard a high-pitched whine, like the feedback from a loudspeaker. Some of the campers looked up and saw an object through a clearing in the trees. Four of the witnesses said that the object looked like a flat-bottomed saucer, 15 to 25 feet in diameter with a red, domed top. It was metallic silver in color and surrounded by a purple haze. A few said that all they saw through the trees was something silvery in color. Others could only confirm a purple haze; and still others said they heard the whine, but because of where they were standing, they could not see the object.

Those who saw the object said that it hovered in place for 15 to 25 seconds. A second whine signaled its departure. The object

seemed to vanish as the witnesses watched it. When it disappeared, the hikers ran back to camp. Upon their return, two of the hikers said that the ground was charred in a circular pattern in the area where the object was sighted, but neither the counselor nor any of the other hikers could or would confirm their report.

Once students have all the details, they should utilize their criteria sheets to determine whether the incident is a CE-1, 2, 3 or is not a CE at all; and they should explain the reasoning involved in their decisions. Repeat the same procedures for the following incident, which is based on an actual UFO encounter.

On January 20, 1972, at about 4:30 p.m., Mrs. J. of Illinois was attracted to the window by what appeared to be landing lights of an airplane. The lights were extremely bright and seemed to be coming directly into the yard. Fearing the lights were the landing lights of a crashing plane headed directly toward the house, she hastily herded her three girls out of the house and into the yard away from the approaching lights, which by then had blended into one huge brilliant and intense white light.

The four frightened witnesses stood in the yard, watching as the light moved in low in a straight line toward the house, suddenly lifted several hundred feet, cleared a clump of evergreens bordering the yard, and dipped down on the far side of the tall trees and touched the ground. The intense light illuminated the surrounding area, including the side of the house and the yard.

The object was also observed by a police officer who had been alerted by radio. He was "buzzed" by apparently the same object, which was low enough so that the patrolman stopped his car, got out, and watched the object move out of sight. The four witnesses at one location and the officer at another gave the same description of the object as being thirty feet in diameter, slightly domed, silent, and of a very intense white light.

The object remained grounded for several minutes, and the four witnesses moved toward the object to get a closer look. Even though the light was bright, the three girls said that the domed part of the craft was clear and that they could see what appeared to be two or three humanlike shapes moving about inside. Mrs. J. could not confirm this because she said that as they neared the craft she was momentarily blinded by the intense light.

Then without warning the object ascended almost vertically in a burst of speed and disappeared toward the northwest. Where the object had grounded in the 16 or so inches of snow there was a large circular imprint about ten or twelve feet in diameter, and the ground beneath the melted snow ring showed evidence of having been scorched. Oval-shaped tracks eight inches long and eight inches apart, in a single file, were found leading from the landing site to a clump of evergreens, where they disappeared.[3]

For most students, just working with two incidents will probably not be enough practice. Additional incidents can be made up or drawn

from any of Hynek's books on the subject, which contain numerous accounts that are ideal for classroom use. A variation that enhances student interest and brings an additional dimension to the activity is to show slides of the encounters along with the descriptions read to the class. Slides can be inexpensively reproduced from most books on UFOs, but again, Hynek's books are good sources for photos.

Reporting to The Center for UFO Studies

Purpose: Like the previous activity, this one gives students additional practice in dealing with the gray areas of definition by requiring students to match an ambiguous UFO encounter with the elaborate criteria on the "UFOs—Criteria for CE-1, 2, and 3" sheet used in the previous activity. This writing assignment could be the culminating activity in the sequence for most young and certainly for all low-ability students.

Procedures: Briefly review what students learned in the previous activity and make sure they have their copies of the "UFOs—Criteria for CE-1, 2, and 3" sheet. Next, hand out the "Early Warning Report Form," which was actually used by the U.S. Government to report facts involving UFO incidents.

Early Warning Report Form

Date _____ Time _____
Place _____
Duration _____ Direction disappeared _____
Number of visual observers ____ Number of objects _____
Size of objects _____ Shape _____
Color(s) _____ Distance _____
Motion(s) _____
Other features _____
Weather _____
Observer—Name _____ Age _____
Address _____
Phone _____ Occupation _____
Reporter—Name _____
Address _____
Phone _____ Occupation _____
Please fill in all possible blanks with relevant information.
Use the back of this sheet for a running description of the event.[4]

Both the report and the criteria sheets will be used in the following assignment which may be given to students orally or in printed form.

Reporting to The Center for UFO Studies

> Listen carefully to the UFO story read to you. Use the U.S. Forestry Service "Early Warning Report Form" to make note of important details you hear. Make sure that you fill out all possible blanks and write a brief description of the event at the bottom or on the back of the form. Then compare the facts in the case to the criteria for a CE-1, 2, or 3 and decide how the event should be classified. Once you make up your mind, write a letter to Dr. J. Allen Hynek, Director, The Center for UFO Studies, 1609 Sherman Avenue, Suite 207, Evanston, Illinois 60201, and explain why you think the sighting should be considered a CE-1, 2, or 3 or should not be considered a close encounter at all. Make sure that you attach the "Early Warning Report Form" to your letter.

Then read the following UFO incident aloud to the class. The incident is based on an actual reported encounter.

> On September 1, 1969, at about 7:00 p.m. in the late afternoon, a flying object was sighted by three witnesses in New York. The witnesses—three suburban housewives—were returning from a day of shopping.
>
> One of the occupants of the car first noticed the object, so Kim, the driver, pulled over. The object was moving rapidly toward them, and when it got close to them, the car stalled and the radio went off at the same time. At this point the object seemed to stop in mid-air perhaps twenty-five feet from their car. The driver tried to start the car twice while the object remained stationary. Next, the object in the sky, which was of a saucer shape, seemed to start moving away from the car. The driver tried to start the car again, and it immediately started, proving that it was not flooded.
>
> Other witnesses in the area confirmed that an object appeared near the highway, moved very rapidly along the general path of the highway, stopped for about a minute beside the highway, and then took off nearly straight up, and disappeared. One of the women in the car said that while the object was stopped to the left of their car, she could see what appeared to be at least three humanlike creatures through a window in the side of the craft.[5]

As in the previous activity, an exciting added dimension is to show slides of UFOs along with giving students the basic facts of the incident. Another variation is to follow the basic procedures but substitute actual encounters from media accounts of incidents or from students' own experiences, and have students actually send their letters to Dr. Hynek at The Center for UFO Studies.

Terrorism: The Common Elements

Purpose: "Terrorism: The Common Elements" asks students to generate and refine a set of identifying criteria for an abstract term. For this

reason, this activity is designed for high school students or students with some skills in abstract reasoning. Students look at a set of incidents that are all labeled as "terrorist" and inductively determine the elements common to all. In discussing the criteria for "terrorism," one student may suggest that it is "a violent act." At this point, other students will object that a fist fight is a violent act and thus could be labeled "terrorist" unless the criterion is refined to "a violent act which victimizes innocent people." In this manner, students gain essential practice for moving from a level 3 to a level 4 on the scale.

Many abstract terms from social studies and current events lend themselves to this activity. Terrorism was chosen for several reasons. Events of recent years have made it, unfortunately, an all-too-frequent term in our daily newspapers; yet a definition of a terrorist act does not come easily or clearly to mind. After some study, however, it is clear that an act labeled "terrorist" has multiple defining criteria. Finally, the incidents themselves are topical and of high interest to the students as they pursue their investigations in this activity.

Procedures: Ask students if they know what terrorism is. Some characteristics and some examples of terrorist acts will probably arise from this discussion. Suggest to students that one way to obtain a fairly comprehensive definition of the term is to investigate a number of actions that have been labeled "terrorist" to see what they have in common. The hostage situation in Iran or a similarly recent, well-publicized event would provide an in-class model for work that the students will be doing independently later in this activity. List the basic journalistic report form "who? what? when? where? and why?" on the blackboard and ask students to supply specific details concerning the American hostages in Iran for each question.

Students are then given other terrorist incidents to research in the library. Assignments may be given individually or in small groups, with each student responsible for researching one, several, or all the terrorist incidents. Notes for each incident should be taken in the same format as the model in class. Details for terrorist incidents such as the Munich Olympics (1972), the Aldo Moro kidnapping (1978), the Italian train station bombing (1980), the American ambassador to Sudan kidnapping (1973), and the Palestinian mayor bombings (1980) would be readily available to students in old news magazines and newspaper clippings.

After students have gathered their information, have them discuss their findings. Through questioning, discussion, and comparison, certain common criteria for an act of terrorism (such as the use of violence, unpredictability, intent to focus public attention, victimization of innocent people, the relationship to a political cause, and the

targets being chosen for a particular outcome—that is, prisoner release or publicity or ransom) will emerge and should be listed and checked for applicability to every situation.

Follow-up Writing Practice: Ask students to look up articles concerning the initial Patti Hearst kidnapping (1974) or any other terrorist act that has not been discussed in class. Using the criteria developed in class to define an act of terrorism, students should write a short description of the Hearst kidnapping and explain why it should be considered an act of terrorism.

Courageous Action: What Is It?

Purpose: This activity is designed to help students develop skills required in writing a level 4 or 5 paper. As in the preceding "Terrorism: The Common Elements," students are asked to generate elaborate criteria in order to define an abstract idea. However, in "Courageous Action: What Is It?" students are given examples of actions that may or may not be considered courageous action; thus they begin to make the fine discriminations necessary to write the level 5 definition paper. The transcript in the theory section above illustrates the debate generated in small groups as students inductively develop elaborate criteria for a courageous action.

Procedures: Pass out copies of the "Courageous Action: What Is It?" worksheet.

Courageous Action: What Is It?

1. Not long ago two parents in Chicago were charged with second degree murder and child abuse. They had starved their child, broken its bones (several ribs, two legs, an arm and skull), and put the infant in a pot on a hot stove. Did those parents fear anything? What should they have feared? Are they courageous because they did not fear the consequences for themselves?
2. The evidence suggests that Richard Nixon knew about the Watergate burglary, at least soon after it occurred. He certainly knew about and was probably involved in the cover-up. Any attempts to cover up such activities could be very dangerous politically. Assuming Nixon did attempt to cover up the activities, should his involvement in the cover-up be considered courageous? Why or why not?
3. Captain Smith comes to a battle zone that is new to him. The enemy holds the village, which is important to supply routes. Soldiers who have been there before the captain say that several approaches to the village are heavily mined. They believe that the village contains hidden gun emplacements as well as machine gun nests. Captain Smith, however, says that the

village must be captured immediately. Ignoring the warnings, he sets out to take the village by frontal attack with three squads of men, himself at their head. Is the captain courageous? Why or why not?

4. Corporal Jewkes is lost in the woods near a village that, unknown to him, is in enemy hands. The village is heavily guarded and the surrounding area is mined. He makes his way through the mines, of which he is unaware, and into the village. Not knowing what is inside, he enters the first house he comes to. It contains a gun emplacement, but the guards are asleep. Jewkes quickly kills the guards and takes the guns. To this point, should we consider Jewkes' actions courageous? Why or why not?
5. The members of two rival gangs, the Archangels and the Killer Bees, meet on the street. Zip, a young man in the process of being initiated into the Killer Bees, is told to confront Big Mike, leader of the Archangels. He knows if he does not, his own gang members will ridicule him, probably beat him, and certainly throw him out of the gang. Therefore, Zip approaches Big Mike and begins to taunt him. Are Zip's actions courageous until now? Why or why not?
6. One day Big Mike comes to school wearing a brand new pair of blue suede shoes. He promptly dares anyone and everyone to step on those blue suede shoes. Being something of a poet, he says, "Put your soles on my suede; I'll put my knife in your life." Are his actions courageous? Why or why not? If someone intentionally tried to step on Big Mike's suedes, would that person's actions be courageous? Why or why not?
7. A woman has been beaten by her husband several times over a period of years. Finally, during one beating, when it seems to her that his rage will result in her death, she runs to the kitchen in panic and grabs a paring knife. When the husband catches her arm she turns and begins flaying him with the knife. Are the woman's actions with the knife courageous? Why or why not?
8. Corporal Kallikak has been on the front lines for a long time. Losses have been very heavy. While his squad is pinned down by heavy machine gun fire, his best friend is killed at his side. Suddenly Kallikak flies into a rage. Swearing at the enemy, he grabs a grenade launcher and in a fury charges across open ground and fires at the gun emplacement, destroying it. Are the corporal's actions courageous? Why or why not? Would your opinion change if he had been killed before firing? Why or why not?

For all groups: Based on your discussion of the incidents above, list your own criteria for defining a courageous action.[6]

Divide students into small groups. Each group should read and discuss all the situations on the worksheet in order to decide which are and which are not courageous actions. Students should make notes on their answers to the questions ending each incident.

At the conclusion of the small-group work, have students reconvene as an entire class. Go through each of the incidents and ask students to report on their ideas. Some disagreements may arise during the discussion; let students debate back and forth and come to their own resolutions as much as possible. Finally, ask students for a list of their own criteria for a courageous action. Based on the incidents and discussion, the list could include having a choice, making a rational decision, being aware of the consequences, and doing a noble action.

Follow-up Writing Practice: There are two possibilities for follow-up writing assignments. Since none of the incidents on the worksheet was courageous, ask students to develop an incident that exhibits all the criteria generated by the class for a courageous action. This incident, either real or imaginary, must include an explanation of why the action should be considered courageous.

A second assignment would give students further practice in matching examples with criteria. Three widely anthologized stories whose main characters may or may not be considered courageous are "Leiningen vs. the Ants" (Stephenson), "To Build a Fire" (London), and "The Raid" (Tolstoy). Ask students to read one of these stories and determine in a short essay whether or not the main character exhibits all the criteria for a courageous action.

Freedom of Speech

Purpose: This activity further refines the skills practiced in the two preceding activities. "Terrorism: The Common Elements" asks students to generate a set of criteria for an abstract idea by looking at a series of incidents, all of which illustrate the term to be defined. "Courageous Action: What Is It?" asks students to generate a set of criteria for an abstract idea after looking at a series of incidents that do not illustrate the term—but come close—and thus illustrate the gray areas of definition.

Several of the incidents in the "Freedom of Speech" activity are deliberately ambiguous and may be argued either way, depending upon the criteria and details that the students generate. Students actively engage in the arguing, refining, and discriminating processes as shown by the transcript of one small group's discussion dealing with an incident comparable to those on the "Freedom of Speech" worksheet provided below:

> Mr. Walker, a high school history teacher, is widely rumored to be a homosexual. One day just before registration for next year's classes, some students post signs on bulletin boards throughout

> the school. The signs all read the same way, "Warning: Registering for certain sections of American History 210 may be hazardous to your Grade Point Average *unless* you are an attractive male."

The four students in this group are trying to determine whether this incident goes beyond the limits of freedom of speech.

> Bill: This is definitely going beyond the limits of freedom of speech. That's invading people's privacy.
>
> Gail: Not really. Not if the teacher's going to give cute guys good grades. It's not fair to the other kids.
>
> Gloria: But there's no proof, though, about higher grades to guys.
>
> Bill: If the teacher's well known for giving high grades to good-looking guys . . . .
>
> Gail: WELL, the people who made the signs never gave a name either.
>
> Bob: "To attractive males," that doesn't say that he's a homosexual.
>
> Gail: The signs didn't say his name. They never said his name.
>
> Bill: But they do say, "American History 210." That sure narrows it down.
>
> Gail: The signs make no direct accusations, though.
>
> Bill: I'm sure everyone's going to be able to figure out who and what the sign refers to. This case is a tough one.
>
> Gail: I don't think so; I think it doesn't violate freedom of speech because the signs aren't giving any names, so no one's privacy is being invaded.
>
> Bill: I'm sick of talking. What do you two think?
>
> Gail: I'm not going to say that it goes beyond the limits of freedom of speech.
>
> Bill: Well, wait. What do you think?
>
> Gloria: Gail's right. There are no names.
>
> Bob: Yeah.
>
> Gloria: The teacher's gotta have a guilty conscience.
>
> Bob: Yeah, as long as they don't give any names, then it doesn't specifically hurt anyone.
>
> Bill: Of course they did say that stuff about grades and suggested favoritism. That could affect his job.
>
> Gloria: Still, there's no proof of him giving good-looking guys better grades, but . . . .
>
> Gail: No names, either.

In this short excerpt, these four students have jointly gone through a sequence of defining steps. At the beginning of their discussion, Bill first formulates the criterion with which this incident deals: freedom of speech must not violate people's privacy. The students then carefully measure the example against this criterion. The students continue to

refine their original criterion and decide that privacy is not invaded if no names are mentioned and no direct accusations are made. Thus, by the end of the discussion, they are ready to make a conclusion based on their refined criterion. According to their criterion, this incident does not go beyond the limits of freedom of speech.

Procedures: After students have been given the "Freedom of Speech" worksheet, follow the same procedures outlined in "Courageous Action: What Is It?"

Freedom of Speech

How often have you heard the remark, "It's a free country; I can say whatever I wish"? Is this really what is meant by freedom of speech? Each of the following cases involves the issue of freedom of speech. For each situation, decide whether or not the action goes beyond the limits of a guaranteed freedom.

1. Which actions go beyond the limits of freedom of speech?
2. Explain why.
3. Develop a set of criteria by which one can evaluate whether an action is or is not protected by freedom of speech.

A high school newspaper contains an editorial criticizing a recent administrative decision and claims that the administration does not know how to run a school.

A girl shouts "Fire!" in a crowded theater and triggers panic that results in many injuries. No evidence was found to indicate any fire in the building.

A man stands in the center of a large shopping mall and yells obscenities about Iran.

The Nazi Party claims it has the right to hold a rally in a park which happens to be adjacent to a Jewish synagogue. The Jewish residents of the area claim that the Nazis do not have this right.

A candidate for Congress states in public that his opponent for the office is a member of the Ku Klux Klan. The accused candidate denies this charge and obtains a letter from the leader of the K.K.K. The letter states that he is not a member. The opponent continues publicly to call him a member of the K.K.K.

Cruelty to Animals: Drawing the Line

Purpose: The design of this activity includes further practice in formulating clear criteria and practice in developing perhaps the most difficult process of all in extended definition—developing contrastive examples. Contrastive examples are essential in writing a level 5 paper because it is through this kind of example that the writer establishes and clarifies the limits of a definition. The process behind contrastive

examples is complex because it involves stating an elaborate criterion, clarifying the criterion by explaining an example that illustrates it, and then contrasting that example with one that is very similar but does not fulfill the established criterion because one or two key factors have been altered.

Although other abstract terms may be used, cruelty to animals was chosen for a number of reasons. First, the issue has wide appeal: young or old, unsophisticated or highly sophisticated, students will have ready opinions and ideas and strong feelings on the issue. This helps ensure a high degree of student involvement. More important, whereas cruelty to animals was once thought of only in terms of cruelty to domestic animals, the issue has become much more complex and hotly debated on local, national, and international levels. With the introduction of factory techniques in the field of animal husbandry, the ecological and social implications of killing endangered species the world over, and the emerging controversy over required U.S. Government testing of consumer products on animals, as well as other considerations, "animal rights" is quickly becoming an important issue. The multiple conflicting elements involved in the issue make it difficult to determine where to draw the line between the humane use of animals for human needs and cruelty to animals. While the incidents used in the activity do not deal with all aspects of the issue, they are topical and of high interest and serve to expand students' knowledge and understanding as they determine where and how to set the limits on the issue of cruelty to animals.

Procedures: Read the following incident to students and lead a class discussion that first focuses on whether the incident is or is not an example of cruelty to animals.

> Incident: African elephants are an endangered species. It is against the law to hunt or kill elephants in most African nations where elephants are found. In one country where elephants are protected by law, poachers sneak into national preserves where they hunt and kill elephants for their tusks. One elephant was found near death after being shot by poachers. The animal's tusks had been torn from its head, and the elephant was left to die.

After a brief discussion most students should be able to see how the incident is an example of cruelty to animals. Encourage them, however, to express their opinions and explain their reasoning.

Once most of the class has reached agreement, ask for a criterion statement based on the incident to determine when hunting animals is cruelty to animals. If students have difficulties with this step, give them a statement such as the following, which contains two criteria, and ask if it would work and why or why not.

> Criteria: An action is cruelty to animals if the technique used by the hunter to kill an animal causes unnecessary suffering to the animal or endangers the survival of the species.

Once the class has decided on a criterion statement, have them go back over the first incident and explain how, if one or two factors were different, the example might not be judged cruelty to animals based on the criterion. If the class has difficulties doing this, or as a final check, give them the following incident, and have them explain whether or not it meets the criterion statement for cruelty to animals.

> Incident: In the same African country where elephants are protected by law, an experienced hunter who is hunting antelope comes across an old, sick elephant that is probably near death. Because he grew up in elephant country, the man knows how to kill elephants quickly and relatively painlessly. He decides to put the animal out of its misery; so he quickly kills it. Before leaving, he decides to take the elephant's tusks.

Most students will probably agree that this incident is not cruelty to animals. Through questioning and comparison and contrast, encourage students to explain that even though this incident is similar to the first, there are key differences, and, as a result, this incident may not meet the criterion for cruelty to animals established by the class. Finally, ask students to explain what the process they have gone through shows about defining.

Hand out the "Cruelty to Animals" worksheet. Divide the class into small groups. In their groups, students are to discuss each incident and decide whether it is or is not an example of cruelty to animals. Then, taking each incident, one at a time, they are to write a criterion statement for determining whether each incident is or is not an example of cruelty to animals. There should be at least one criterion statement for each incident. Next, each group should generate a contrastive example for each incident and criterion statement that is similar to the example given, but because of one different factor directly contrasts with it in terms of the criterion. Thus, if the group decides that an incident is an example of cruelty to animals, then the contrastive example should be close but not meet the criterion. On the other hand, if a given example is not cruelty to animals, then the contrastive example should be similar but should meet the criterion.

Cruelty to Animals

1. One very hot summer day a woman went shopping at a local shopping center. The woman left her dog Fluffy in the car for over two hours. The woman had only intended to shop for a short while, so she left none of the windows partially opened

for ventilation. As a result, the temperature inside the car reached nearly 120 degrees. The dog was unconscious when the woman returned.

2. A man came home from work one day and discovered that his dog Spot had chewed a hole in his new couch. The man was furious with the dog, especially since it had never done anything like this before. The dog, sensing the man's anger, ran from the man whenever the man tried to grab the dog to punish him. This only further infuriated the man. When he finally cornered the dog in his bedroom, he was so angry that he kicked the dog as hard as he could. The kick broke one of the dog's legs.
3. One night two teenagers with BB guns broke into a local zoo. They wanted to try out their guns on some live game. When they passed a large cage with three tigers in it, the animals growled at the boys. The teenagers took this as a challenge and fired twenty times at the tigers in the cage, hitting them numerous times.

At the conclusion of the small-group work, have students come together as a class. Go over each of the incidents, and have students report what they did in their groups. Some disagreements will arise during the discussion, over how the incidents given should be classified, the criterion statements, or the contrastive examples. Let students explain their reasoning, debate back and forth, and come to their own resolutions as much as possible. Finally, have students revise their criterion statements and contrastive examples before turning them in.

Follow-up Writing Practice: There are a number of possibilities for follow-up writing assignments. Since only a few areas of possible cruelty to animals were dealt with in the activity, one possibility is to give students another incident or have them find one on their own, perhaps related to treatment of animals in zoos or to using animals in testing consumer products. Have students develop a criterion statement based on the incident and a contrastive example, and have them analyze and explain how their examples draw the line in terms of their criterion statement.

Preparing to Write

Purpose: The final goal of instruction is to have students who can independently apply knowledge to a new situation. This activity checks to see if students are at this level of independence in writing an extended definition. Before students write an extended definition of a term of their choice, they need to do some preliminary thinking about criteria and examples that could be used to clarify the gray areas. A

worksheet for extended definition enables students to generate specific information they can use in writing their papers; the information on this worksheet becomes the basis for the student's composition. The worksheet also helps students to recognize and practice the procedures they could follow for solving any kind of defining problem they encounter in the future. It helps ensure that students carry over in this new composition assignment the skills learned in previous activities, and therefore write level 5 compositions.

Procedures: For this terminal composition assignment, give students a list of possible abstract terms to define. A good list might include terms important in the world at large—such as *an accomplice, police brutality, obscene or profane language, drug abuse, sportsmanship, patriotism,* and *perjury.* After students have chosen a term, they should complete the following worksheet.

Worksheet for Extended Definition

1. Term (topic) chosen for extended definition: _____
2. In what situations (in real life) might there be a problem involving defining this term? For whom would you need to define the term? Explain.
3. Give a dictionary-type definition (place within a class and differentiate).
4. Criteria to clarify the definition:

   or

   Are there different kinds of your term (for example, two kinds of child abuse: mental and physical abuse)? If so, list each kind and then give criteria separately for each.
5. Give five to six extended examples like those in "Courageous Action" and "Freedom of Speech." Be sure to include mostly borderline situations. These examples may be actual or hypothetical events.
6. Taking two or three examples from number 5 above, change one or two important factors in each as you did in "Cruelty to Animals," to show how you would set the limits of your definition.

Small groups may discuss these completed worksheets so that students can evaluate each other's criteria and borderline examples before writing their final compositions. With this preparation, students are now ready to begin their rough drafts.

Analysis of Models

Purpose: Because this activity asks students to recognize in someone else's writing the application of strategies they have been practicing, it

may be used (with modifications) anywhere in the sequence of activities. Depending upon the materials used, this activity may fulfill more than one purpose. First, it provides students with practice in the objective analysis of expository writing because students are asked to read and rate papers by using the scale developed in the Theory and Research section. Second, this critical analysis should carry over to other fields of study where students will be more qualified to analyze definitions they encounter in psychology, science, philosophy, and so on. Third, if student papers from the initial pretest are used as models, students will be able to determine where they started in terms of their own writing skills and to identify their goals for a finished product at the end of instruction. In this activity students apply their newly acquired knowledge to the task of evaluation. At this point, students are interested in analyzing what someone else has done with the problem of definition, since they have been working with it themselves and inductively realize the problems.

Procedures: For this activity, each student should have a copy of "Scale for Extended Definition," presented in the Theory and Research section. In addition, the teacher will need enough models to distribute to everyone in the class. Models can be obtained in a variety of ways. Using the students' pretests (with names cut off), the work of professional writers, or the work of former students are all possibilities. Transparencies of a few papers may also be made for use with an overhead.

Using the overhead or individual copies, go over two papers of varying levels with the class as a whole. Ask students at what level on the scale they would rate the paper and why. After this initial discussion, distribute the models to the students and ask them to individually read and rate them. After students have rated several papers, have them divide into small groups to discuss their various ratings and the reasons for them. Ask students to try to reach a consensus on the ratings through their discussion.

Follow-up Writing Practice: Further practice in this skill may be gained by giving students another model paper and asking them to write an analysis explaining what rating they would give it and their reasons why.

Peer Evaluation

Purpose: Although technically not prewriting, this activity is still a "pre-grading" activity and serves as a final opportunity for students to evaluate the compositions they began in "Preparing to Write." "Peer Evaluation" may also be used to evaluate student writing at other

points in the sequence. With modifications in the check sheet, it can be appropriate for any age or level of student. Furthermore, it utilizes the skills of objective and critical analysis that the students practiced in "Analysis of Models." This activity gives students a chance to help their peers through constructive critiques. Rather than a general, "all-purpose" check sheet, this check sheet is tailored specifically to assess the skills needed for writing an elaborate, sophisticated extended definition paper. Thus, it is designed to pinpoint specific strengths and weaknesses in the students' work.

Procedures: Collect the finished extended definition papers from students and redistribute them among the students, along with copies of the "Extended Definition Check Sheet."

Extended Definition Check Sheet

Writer's name: _____

Evaluator's name: _____

Topic (term) chosen for extended definition: _____

	Yes	*No*
1. Does the paper name the term to be defined and place it within a class?	_____	_____
2. Does the paper differentiate the term to be defined from others within the same class?	_____	_____
3. Does the paper give adequate criteria to clarify the term being defined?	_____	_____
4. Does the paper contain enough examples?	_____	_____
5. Do the examples clearly illustrate the criteria?	_____	_____
6. Do the examples include borderline situations?	_____	_____
7. Does the paper clearly explain why the borderline situations do or do not fit the criteria?	_____	_____
8. Does the paper contain contrastive examples?	_____	_____
9. Does the paper explain why the contrastive examples do or do not fit the criteria?	_____	_____
10. Is the paper clearly written and understandable in all parts?	_____	_____
11. What rating, based on the "Scale for Extended Definition," would you give this paper?	_____	

Give students time to fill in the check sheets for the papers they are evaluating. When evaluated, papers and check sheets should be returned to their authors for final revisions. Provision should be made for those who want to make extended revisions based on the peer evaluations.

Notes

1. (Chicago, Henry Regnery Co., 1972), pp. 86–163.

2. See also *The Hynek UFO Report* (New York: Dell, 1969) and J. Allen Hynek and Jacques Vallee, *The Edge of Reality* (Chicago: Henry Regnery, 1975).

3. Hynek, *The UFO Experience: A Scientific Inquiry*, pp. 132–134.

4. Edward U. Condon, *Scientific Study of Unidentified Flying Objects* (New York: E. P. Dutton, 1969), p. 860.

5. Hynek, *The UFO Experience: A Scientific Inquiry*, pp. 118–120.

6. George Hillocks, Jr., "Processes in Composing: Invention to Product," (unpublished manuscript).